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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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05/08/2003

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EXAMINER

KIM, PAUL L

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,444

Applicant(s)

RANDALL ET AL.

Examiner

Paul L Kim

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference number "116" in figure 1 has been used to designate both the communication circuit and the multiplexer. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference number mentioned in the description: "103" for the Precision Time Signal Receiver in figure 1. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 4 is objected to because of the following informalities: The word "signal" is repeated twice. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4, 6, 7, 9, 13, 15-17, and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Travis.

With regard to claims 1 and 9, Travis teaches an apparatus for generating clock information for an electric meter comprising: a source of power line timing information (fig. 3, part 33a and col. 5, lines 36-42), a source of externally-generated precision time information (fig. 3, parts 30-33 and col. 5, lines 17-23), and a timing circuit coupled to the source of precision time information to receive a precision time signal (fig. 3, part 33), the timing circuit operable to generate clock information based on the precision time signal, the timing circuit further operable to generate clock information based on the power line timing information (col. 6, lines 1-5 and col. 9, lines 21-30).

With regard to claims 4, 13, and 20, Travis teaches the power line timing information including a pulse signal derived from a power line signal (col. 12, lines 48-51).

With regard to claims 6, 15, and 21, Travis teaches a delay coupled between the source of power line timing information and the timing circuit in order to synchronize the pulse signal with the precision time signal (col. 25, lines 29-32).

With regard to claims 7, 16, and 22, Travis teaches a source of clocking signals operable to generate a signal having a frequency exceeding a frequency of the precision time signal (col. 9, lines 42-60) and the timing circuit generating the clock information based on the clocking signal (col. 9, lines 21-24).

With regard to claim 17, Travis teaches an electricity meter comprising a source of power line timing information (fig. 3, part 33a and col. 5, lines 36-42), a source of externally generated precision time information (fig. 3, parts 30-33 and col. 5, lines 17-23), a timing circuit coupled to the source of precision time information to receive a precision time signal (fig. 3, part 33), the timing circuit operable to generate clock information based on the precision time signal, the timing circuit further operable to generate clock information based on the power line timing information (col. 6, lines 1-5 and col. 9, lines 21-30), and a memory to store data (col. 11, lines 52-56). Travis does not specifically mention a measurement circuit to generate energy consumption data from the voltage and current signals. However, it is inherent that a watt-hour meter (col. 4, lines 56-62) would have to measure both voltage and current in order to obtain wattage information.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 3, 10-12, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Travis.

Travis does not teach generating clock information from either the precision time signal or the power line timing information alone. It has been held, however, that omission of an element and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art. In re Karlson, 136 USPQ 184 (CCPA 1963). It would have been obvious to one of ordinary skill in the art, at the time the invention, to generate clock information from only a precision time signal or a power line, in order to improve reliability of the system by continuously receiving a timing signal

7. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Travis in view of Szabela et al.

Travis teaches power line timing derived from pulse signals but does not teach the power line timing information including a signal derived from zero crossings of a power line signal. Szabela et al teaches an electricity meter that uses a program clock based on pulse signals derived from zero crossings of a power line signal (col. 2, lines 66 – col. 3, line 12). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Travis, so that signal timing can be derived from zero crossings of a power line signal, as taught by Szabela et al, in order to detect timing reference points.

8. Claim 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Travis in view of Griffin et al.

Travis does not teach an accumulator being used to generate a timing output signal from a received time pulse. Griffin et al teaches an electric meter having a precision time clock that uses an accumulator is well known in the art (fig. 5b and col. 11, lines 65+). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Travis so that an accumulator is used to generate a timing output signal, as taught by Szabela et al, in order to control clock signals for precise timing.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Eaton et al teaches a device that records meter readings by wireless transmission using a synchronized clock signal.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is 703-305-7468. The examiner can normally be reached on Monday-Thursday 10:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 703-308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-4440 for regular communications and for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

PK
April 24, 2003


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800